



Analysis of Health-Related Quality of Life among School-Going Children: A Cross-Sectional Study from Tehsil Faisalabad

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ABSTRACT

Health-Related Quality of Life (HRQoL) is a multidimensional construct which represents children's physical, psychological and overall health. Analyzing HRQoL during childhood is important because health-related experiences can influence children's daily functioning, participation, learning, and emotional development. The current study was meant to evaluate the Health-Related Quality of Life (HRQoL) of school going children conducted by a cross sectional survey design at Tehsil Faisalabad. The number of mothers participating in the study was 120 families of Colony Punjab Government Servant Housing Society, Faisalabad. The housing society consisted of 1200 residential units, 1020 households were screened for presence of children age 6-14 years and were identified as eligible. Information was collected through a structured questionnaire on children's nutritional status, sleep quality, physical activity and psychological conditions. Data collected was analyzed using descriptive statistical techniques namely weighted scores, mean, standard deviation and ranking. The results indicated that the highest mean score in the nutritional status was for having breakfast before going to school (Mean = 4.60) and the highest score for the sleep indicator was for 'adequate sleep' (Mean = 4.07). Physical activity (Mean = 4.22) was most highly enjoyed in physical activity and in outdoor play. Academic Worry (Mean = 3.00), Frustration in stressful situations (Mean = 2.92), and Nervousness before examinations (Mean = 2.91) were the top three concerns for psychological well-being. However, the results suggest that the parents and schools should have to keep focus on children's positive dietary habits, sleep and physical activity habits, with a stronger focus needed on the psychological health, especially those pertaining to academic life.

Introduction

Health-related quality of life (HRQoL) is an emerging multidimensional measure to understand health and well-being in children and adolescents. It focuses not only on the absence of disease or physical symptoms but also on the role of health for physical functioning, emotional well-being, social relations and daily activities. This is especially important in childhood when aspects of health can impact development, family dynamics, peer interaction, learning in school and the ability to carry out daily activities. Therefore, assessment of HRQoL offers a holistic view of children's health experience in their daily lives (Wallander & Koot, 2016).

Several individual, family and lifestyle factors are associated with children's perceptions of their health in a Pakistani context. In a cross-sectional study by Afridi et al. (2013), 414 school going adolescents from Karachi, Lahore and Quetta were found that around 29% of the participants were not satisfied with their health status. Extended family structure, low paternal occupational status, poor parent-child communication, parental unfair treatment, poor diet, and smokeless tobacco were associated with poorer perceived health. The results show that the children's health experiences are related not only to their physical health but also to their family relations and their lifestyle choices and situation.

It is also seen in the Pakistani studies regarding HRQoL that it is very important to take the social and environmental setting of children's health into consideration. Ladak et al., (2020) studied children and adolescents with CHD in Pakistan and found that the children's health related quality of life was related to family relationships, cultural norms, available resources and social environment. Their study was conducted among children with a particular health condition, but their findings show that HRQoL is determined by the child's context, and is not fully explained by health status. This reinforces the need to take a holistic approach to children's quality of life and to consider family, social and environmental circumstances.

Assessment of HRQoL is useful in the school setting as children spend a significant amount of time at school, where they engage in a variety of physical, social, emotional and cognitive functions. Schools can offer children opportunities for learning, socialising, physical exercise and building skills that will help to promote their health and wellbeing in the future. Meanwhile, school-aged children can face many health problems such as unhealthy food patterns, sedentary lifestyle, mental health issues, communicable and non-communicable diseases, and other health factors that impact their functioning in daily life. Schools are a key place to advance health and health interventions for school-age and adolescent children (World Health Organization, 2021).

Physical health is a key domain of children's HRQoL, as children's participation in play, physical activity, school activity, and other daily activities relies significantly on their physical functioning. Recurrent illness, poor health, pain, fatigue or physical limitations can limit participation and impact children's general health. In turn, healthy childhood development is linked to healthy growth and development. Physical health conditions have the potential to significantly impact on children's health-related quality of life, encompassing physical, emotional, social and school functioning, as shown by Hashmi et al. (2023).

The lifestyle behaviors are also strongly related to children's HRQoL. Nutrition, physical activity, sedentary activity and sleep are all components of children's daily lives, and may have a negative impact on physical and psychological functioning. A systematic review recently conducted with more than 149,000 children and adolescents revealed that increased sleep quality and higher physical activity levels were linked to higher HRQoL, whereas excessive screen time and poor sleep quality were linked to poorer outcomes. The results indicate the need to measure HRQoL in consideration of children's daily life patterns rather than just their diagnosed health condition (Ferreira et al., 2025).

Physical health is a core aspect of children's HRQoL, since children's participation in play and physical activity, school activities, and other daily activities is highly reliant on their physical function. Children may have health, recurrent illness, pain, fatigue or physical limitations that can limit participation and impact children's overall health. On the other hand, higher physical fitness scores have been linked with higher health-related quality of life among healthy children and adolescents, especially regarding physical health, psychological health, peer health, and overall health. The results suggest that promoting physical health and fitness in childhood can be a factor in children's overall quality of life and participation in daily and activity-related tasks (García-Hermoso et al., 2021).

Psychological and social function is also a part of children's quality of life. Children are especially vulnerable during school years when they are expected to perform in school both academically and on exams, are expected to be good students, and experience pressures from peers and school. Children's engagement and learning can be impacted by persistent worry, nervousness, frustration or emotional difficulties even if their physical health is relatively good. Based on the results of longitudinal studies, school-related experiences and psychological factors have been found to be close to adolescents' health and sleep, and therefore, the school experiences should be taken into account when addressing adolescents' overall well-being (Bacaro et al., 2023).

Moreover, the link between health and education makes it even more relevant to analyze HRQoL in school going children. School environment and supportive educational environments can have a positive effect on children's health and psychosocial development; conversely, health can affect school attendance, concentration, participation, motivation and ability to engage in learning activities. The World Health Organization has mentioned that "health and education are closely linked" and that, "good health has been linked to participation and achievement in education". Thus, analysis of the health-related quality of life of

children in the school-age group can offer data that would be of use not just to health but also to child education (World Health Organization, 2021).

This analysis of HRQoL is also important as children's health experiences can vary based on their socio-economic and family situation. Studies have revealed that perceived health is related to parental employment, family structure, communication between parent and child and the child's diet in Pakistan. Likewise, studies conducted in Pakistan conducted in children with chronic health conditions have shown that family resources, cultural and environmental resources have impacts on HRQoL. The findings indicated that children's quality of life should not be considered as an isolated health outcome but it should be explored in the context of their social and material environment (Afridi et al., 2013; Ladak et al., 2020).

Though HRQoL is gaining recognition as an important indicator of child health, there is still a gap in evidence specific to Pakistan and particularly of children that are not screened for any specific clinical condition or disease. Although there is some available literature on HRQoL in the Pakistani context, most studies have concentrated on specific groups of patients and few studies have been conducted to measure HRQoL in a community setting, across multiple dimensions of HRQoL among school-going children. In recent times, with the involvement of Pakistani stakeholders, the need to generate appropriate evidence on children's health and HRQoL and enhance the availability of locally relevant information for children and adolescents in Pakistan has been emphasized (Malik et al., 2025).

The present study, therefore, was directed toward school going children aged 6-14 years within the Tehsil Faisalabad and the selected dimensions of their HRQoL from the mother's perspective was examined. The study specifically examines four important dimensions of children's everyday well-being: nutritional status, sleep quality, physical activity, and psychological well-being.

Review of Literature

Health-related quality of life (HRQOL) is one of the key indicators of children's Physical and Psychological Health and their ability to engage in daily activities. As children grow up, their lifestyle habits like eating healthy, getting enough sleep, physical activity and mental wellness can impact their ability to live their life. These factors should be taken into consideration when studying HRQoL in school-going children.

Ha et al. (2022) explored the associations between physical activity, diet and HRQoL in the three Asian cities. The study revealed that physical activity and healthy eating behaviors had a positive correlation with children's HRQoL. The results indicate that physical activity and healthy nutrition are important factors for improving the health and health situation of school-aged children.

In the area of nutritional status, Wu et al (2022) examined eating habits and HRQoL in 9,150 grade five learners aged 10 to 11 years, in Alberta, Canada. The researchers identified healthy, less healthy and unhealthy eating patterns, and found that children with less healthy or unhealthy eating patterns were more likely to report lower HRQoL than children who ate in a healthy eating pattern. The results suggest that healthy eating habits are one of the components of children's quality of life.

The quality of sleep is also strongly associated with children's HRQoL. Taylor et al. (2023) investigated the influence of sleep alterations on HRQoL in a sample of 100 healthy children aged 8-12 years. The researchers concluded that children who slept about 39 minutes less per night were less physically well, less well-functioning at school, and less as a whole happy with their HRQoL. This discovery highlights the importance of good sleep for children's physical health and functioning.

The other important factors associated with HRQoL are physical activity. Children's physical activity showed a positive correlation with HRQoL, suggesting that children who were more physically active would have a better physical and psychosocial HRQoL (Ha et al., 2022). Participation in regular play, exercise and physical activity may thus help to promote children's health and well-being.

Psychological and mental health are an important component of HRQoL because emotional issues can impact children's functioning in everyday life and general health. In a study by Ravens-Sieberer et al. (2023), mental health and HRQoL of children and adolescents involved in the German COPSy longitudinal study were investigated. The study revealed that there was a close link between psychological well-being and children's HRQoL, with an increase in mental health problems corresponding to a decrease in HRQoL.

The literature reviewed overall suggests that nutrition, sleep, physical activity, and psychological and mental health are key components of HRQoL that are associated with children and adolescents. However, these factors have not been studied in a

comprehensive manner with school going children in the local milieu of Tehsil Faisalabad. Hence, the present study is focussed particularly on these four factors to evaluate the health related quality of life of school going children in the age range 6-14 years.

Research Objectives

The study was conducted with the following objectives:

1. To assess the nutritional status of school-going children aged 6–14 years in Tehsil Faisalabad.
2. To examine the sleep quality of school-going children.
3. To assess children's physical activity and participation in outdoor play.
4. To examine the psychological well-being of school-going children, particularly school-related worries and emotional concerns.
5. To identify the major areas of HRQoL that require greater attention among school-going children.

Methodology

Research Design

The type of study design adopted in this study was a quantitative cross-sectional research design. The cross-sectional study design was deemed suitable as data were gathered at one point in time to provide information about some key dimensions of HRQoL in the school-going population aged between six and 14 years.

Study Area

This study was carried out in Colony, Punjab Government Servant Housing Society, Tehsil Faisalabad, Faisalabad city. The chosen locality was convenient as it provided an easy access for the researcher and had households with school going-age children in the age group required for the study.

Population and Sample

The initial population frame was comprising 1200 residential units of the selected housing society. From which 1,020 were identified as eligible households, having children aged 6-14 years. 180 families were not included because they lacked children in the age range. The respondents being 120 mothers of school-going children were randomly selected through purposive sampling. Sample size was calculated based on Survey System at 95% confidence level. Mothers were chosen as appropriate household members to report on the daily health, nutritional intake, physical activity and psychological experiences of children.

Participants

The participants were mothers with one or more school-going children (6–14 years). The study aimed to explore mothers' reports of their children's health-related experiences and functioning in daily activities.

Inclusion Criteria

The study included:

- Mothers with one or more children in school (age 6-14 years).
- Mothers living in the housing society that was selected.
- Mothers who were willing to take part in the study.

Exclusion Criteria

There were no families with no children aged 6-14 included in this study. Mothers who were unwilling to participate were also excluded.

Research Instrument

The data was gathered by using a structured questionnaire which was designed based on the purpose of the study. The questionnaire contained questions about children's nutritional status, sleep quality, physical activity and psychological well-being. Likert-type response categories were used to present items to elicit mothers' perceptions of children's health-related experiences.

Data Collection Procedure

Eligible households were identified and the researcher approached potential respondents and provided the study's purpose. Participation was voluntary. The respondents were informed that the information that is collected is for the purpose of academic research only. The mothers selected were given the questionnaire for completion and the completed questionnaires were retrieved for analysis.

Data Analysis

The data collected were analyzed by the Statistical Package for the Social Sciences (SPSS). Once the data has been entered and coded, the responses are then processed in a systematic manner within the SPSS software file ensuring accuracy and consistency. Data were analyzed using descriptive statistical technique. Where appropriate frequencies and percentages were calculated to describe the distribution of responses. Furthermore, weighted scores, means, standard deviations and ranking were calculated using SPSS to summarize the answers of the Health-Related Quality of Life (HRQoL) items. Mean scores were used to determine the extent of positive responses for positively worded items, and negatively worded psychological items were interpreted based on the wording of the items in the scale. The SPSS software was used to provide a neat data handling and make statistical outputs for the study findings to be interpreted.

Ethical Considerations

Ethical principles were adhered to during the research process. Participants were told what the study was asking from them and why it was being done and that it was a voluntary study. They were informed that their replies will be confidential and only for research purposes. The statements did not include personal data which might identify individual members of the group.

Results

The results of the study are presented to describe the Health-Related Quality of Life (HRQoL) of school-going children based on their mothers' responses. Descriptive statistics, including weighted score, mean, standard deviation, and ranking, were used to summarize the responses across the major domains of HRQoL. The findings covered nutritional status, sleep quality, physical activity, and psychological well-being, providing an overall description of the children's health-related experiences in the selected study area.

Table 1: Descriptive Statistics and Ranking of Nutritional Status among School-Going Children

Nutritional status	Weighted Scores	Mean	S.D.	Rank
Your child eats breakfast before school.	2417	4.60	0.75	1
Your child consumes three adequate meals daily.	2183	4.15	0.995	2
Your child's diet includes sufficient protein sources (meat, pulses, eggs, etc.).	2023	3.85	1.11	3
Your child drinks enough water daily to stay hydrated.	1983	3.78	1.07	4
Your child consumes dairy products daily.	1976	3.76	1.23	5
Your child eats fruits every day.	1891	3.60	1.227	6
Your child consumes fast food or junk food.	1568	2.98	1.07	7
Your child skips meals due to behavioral reasons.	1552	2.95	1.31	8

Scale: 1 = Never | 2 = Seldom | 3 = Sometime | 4 = Frequently | 5=Always |

The overall picture of the nutritional practices of children presented in Table 4.2.1 suggests that the nutritional practices were satisfactory with mean score of 4.60 to 2.95. The most important practice that was mentioned was eating breakfast before school (M = 4.60, SD = 0.75), meaning that most children often ate breakfast before going to school. This was followed by eating three

meals daily that were adequate ($M = 4.15$, $SD = 0.99$). Protein rich food, drinking water and dairy products were also reported at relatively good levels. Fruits fell into the bottom tier of the scores ($M = 3.60$, $SD = 1.22$) indicating a less consistent healthy habit. Fast-food/junk-food consumption ($M = 2.98$, $SD = 1.07$) and skipping meals due to behavioral reasons ($M = 2.95$, $SD = 1.31$) were the lowest ranked. The results indicate that children's overall nutritional behaviors were relatively good, but there is an opportunity for improving their nutrition through increased consistency in fruit consumption and regular eating habits.

Table 2: Descriptive Statistics and Ranking according to the sleep quality of the children

Sleep quality	Weighted Scores	Mean	S.D.	Rank
Your child gets adequate sleep.	2417	4.07	1.24	1
Your child's sleep is generally deep and restful.	1196	4.00	1.13	2
Your child feels refreshed and energetic upon waking.	2086	3.99	1.20	3
Your child follows a consistent bedtime routine.	1090	3.97	1.12	4
Your child uses electronic devices before going to sleep.	1784	3.39	1.43	5
Your child has difficulty waking up early in the morning.	1627	3.09	1.44	6
Your child often wakes up during the night.	1891	2.67	1.26	7
Your child faces difficulty falling asleep at night.	2183	2.45	1.36	8
Your child experiences nightmares or sleep-related anxiety.	2097	2.27	1.34	9

Scale: 1 = Never | 2 = Seldom | 3 = Sometime | 4 = Frequently | 5 = Always |

The results presented in Table 2 shows that children's sleep quality was generally moderate to good, with mean scores ranging from 4.07 to 2.27. The most important item ($M = 4.07$, $SD = 1.24$) was getting adequate sleep, which means that most children got adequate sleep on a frequent basis. This was followed by getting a deep and restful sleep ($M = 4.00$, $SD = 1.13$) and feeling refreshed and energetic upon waking ($M = 3.99$, $SD = 1.20$), indicating overall good sleep experiences. A regular sleep pattern was also assessed at a very good level. However, some degree of use of electronic devices in the lead up to sleeping and early morning waking difficulties were reported, suggesting some possible disruption of lifestyle. The following problems, namely night waking, falling asleep and nightmares/sleep-related anxiety, were comparatively less frequent, with lower ratings. The results indicate that overall, children generally had reasonably good sleep habits; that paying more attention to their bedtime habits and limiting electronics before sleep may further benefit sleep quality.

Table 3: Descriptive Statistics and Ranking according to the physical activity of the children

Physical Activity	Weighted Scores	Mean	S.D.	Rank
Your child enjoys being physically active and looks forward to outdoor play.	2211	4.22	0.91	1
Your child's physical activity contributes to better concentration and learning.	2118	4.03	1.08	2
Your child finds physical exercise enjoyable and engaging.	2098	4.00	1.50	3
Your child has access to safe and suitable areas (e.g., parks or playgrounds) for physical activity.	2035	3.88	1.06	4
Your child participates in daily physical play such as running, cycling, or jumping.	2031	3.87	1.15	5
Your child regularly takes part in school sports or physical education activities.	2018	3.85	1.20	6
Physical activity helps your child to develop teamwork and leadership skills.	1973	3.76	1.24	7
Your child shows reduced anxiety or mood swings due to regular exercise.	1922	3.66	1.18	8

Scale: 1 = Never | 2 = Seldom | 3 = Sometime | 4 = Frequently | 5 = Always |

Table 3 shows, overall, that children were physically active in a positive manner with mean scores of 3.66-4.22. Children generally were interested in being physically active, with enjoyment of physical activity and outdoor play being the highest score ($M = 4.22$, $SD = 0.91$). The second most important was the perceived benefit of physical activity on concentration and learning ($M = 4.03$, $SD = 1.08$) and the enjoyment and interest of physical activity ($M = 4.00$, $SD = 1.50$). Favorable access to safe places for physical activity and daily physical play for participation also was reported. Lower scores were found for participation in school sports or physical education, development of teamwork and leadership skills, and decrease in anxiety or mood changes from

exercise, compared to other scores. In general, the results indicated that children were active and liked physical activities, but this could be further enhanced through more encouragement to participate in physical activities regularly in school and organized physical activities.

Table 4: Descriptive Statistics and Ranking according to the Psychological Well-Being / Mental Health of the children

Psychological Well-Being / Mental Health	Weighted Scores	Mean	S.D.	Rank
Your child feels worried about academics.	1577	3.00	1.29	1
Your child gets angry or frustrated in stressful situations.	1529	2.92	1.38	2
Your child feels nervous before exams.	1528	2.91	1.44	3
Your child shows frequent mood swings.	1395	2.65	1.22	4
Your child shows symptoms of stress such as headaches or stomach pain.	1337	2.54	1.19	5
Your child has difficulty concentrating in class.	1299	2.47	1.37	6
Your child experiences feelings of sadness or hopelessness.	1223	2.32	1.24	7
Your child often feels lonely.	1158	2.20	1.34	8

Scale: 1 = Never | 2 = Seldom | 3 = Sometime | 4 = Frequently | 5 = Always |

The results presented in Table 4 shows that children experienced some psychological concerns, mainly related to academic pressure and stressful situations. The mean scores were between 3.00 and 2.20, meaning that most concerns were found in the 'seldom' and 'sometimes' categories. Academic worry was the highest ranked concern ($M = 3.00$, $SD = 1.29$), indicating sometimes children were worried about academics. Stressed anger/frustration ($M = 2.92$, $SD = 1.38$) and nervousness prior to exam ($M = 2.91$, $SD = 1.44$) were also reported at relatively higher levels. Occasional, occasional - mood swings and stress-related physical symptoms (headache, stomach pain). Difficulty concentrating, sadness or hopelessness and loneliness were reported less often, with loneliness being the least reported. In overall, the results showed that academic stress is the major psychological problem among children with less prevalence of more serious psychological problems like loneliness and hopelessness.

Discussion

In the present study the selected dimensions of Health Related Quality of Life (HRQoL) of school going children from 6 to 14 years were evaluated in Tehsil Faisalabad. The results indicated that children's nutrition patterns, sleep and physical activity were overall good, and that psychological well-being was an area that needs to be further emphasized. The data underscore the multi-faceted nature of quality of life for children and that daily health behaviors and emotional experiences play a role in children's overall health and well-being. A systematic review conducted by Janssen and LeBlanc (2010) underscored the benefits that regular physical activity has on important physical and psychological health outcomes in childhood, highlighting the need to consider lifestyle behaviors when examining children's wellbeing.

The nutritional observations show that children in the selected community have a good eating habits, as they take breakfast every day. During the school years, breakfast is critical as children need sufficient energy and nutrients to grow and function all day. Data from systematic reviews suggest that there is evidence for a relationship between breakfast eating and academic achievement and cognitive functioning, but the strength of this evidence depends on the design of the studies and the type of children studied. In a systematic review of school-age children and adolescents, Jeong (2019) found a general positive correlation between the regular consumption of the breakfast meal and academic performance. This is in keeping with the importance of children's regular breakfast eating habits, even if the present study does not directly assess children's nutrition and school performance.

Another relatively positive dimension in the present study was sleep. Quality sleep is necessary for children's physical development, emotional control, attention and functioning. There has been growing evidence that sleep must be taken into account as a part of lifestyle, not a single health determinant. Walsh et al. (2022) conducted a systematic review of the combinations of physical activity, sedentary behavior and sleep in children and adolescents which concluded that a healthier combination of physical activity, sedentary behavior and sleep was linked to better physical, psychological, and education-related outcomes. This is in line with the current results that good sleep patterns are a significant part of children's HRQoL and need to be sustained by a suitable daily routine.

The results for physical activity were also positive where children were generally described as enjoying out-of-door play and physical activity. Physical activity offers children chances to make good use of their physical fitness, to develop social skills and to have positive emotions. There is specific evidence discussing how physical activity is correlated with HRQoL, which has indicated that the more physically active children and adolescents are, the better their HRQoL is in general. The study by Marker et al. (2018) revealed a positive correlation between physical activity and HRQoL, and beneficial outcomes of physical activity interventions on the quality of life of children. Therefore, the good physical activity pattern identified in the current research could be a positive factor in improving the general functioning of children.

Although these positive results are present, psychological wellbeing was a relatively significant issue. Mothers' concerns included academic worries, frustration in stressful situations and nervousness before exams. The results indicated that the academic demands could affect children's emotional experience even if their physical health behaviors are adequate. Cassidy and Boulos (2023) concluded that academic expectation stress had a negative association with the well-being and quality of life of school children. The implications from their work are especially relevant for the current study as they found that the pressure associated with expectations within the academic domain can impact children's overall health and wellbeing, not just academic performance.

Academic concern and examination anxiety also may be indicative of the pressure children feel to perform to meet parental and school expectations, which is present in the current study. In the educational environment, academic performance is frequently an important goal, and too much focus on this performance can put an emotional strain on children. In the case of children, academic stress was a significant factor in the association between academic achievement and subjective well-being, and supportive and fair treatment by parents and teachers appeared to have a buffer effect on some of the negative effects associated with academic stress (Choi et al., 2019). This implies that a nurturing educational context can play a role in ensuring children's emotional health and encouraging their academic drive.

The results also highlight the relatedness between various dimensions of HRQoL. The four components of nutrition, sleep, physical activity, and psychological well-being should not be viewed as being totally distinct from one another in the lives of children. E.g., healthy physical activity and sufficient sleep can be important for emotional function, and, psychological stress can affect healthy routines. Similarly, Walsh et al. (2022) showed that the associations between movement behaviors and physical, psychological and educational outcomes were not only due to physical activity, but also to sedentary behavior and sleep. Thus, multi-behavior interventions targeting improving children's HRQoL should focus on multiple health behaviors and not on any one behavior.

It is important to mention that in the present study; the information was based on mothers' reports of their children's experiences. Mothers can give valuable feedback about children's behaviors around eating, sleeping, physical activity, and things that they are able to see in their behavior. Some psychological experiences, however, such as worry or nervousness are not always noticeable to parents. Self-perception may therefore give additional information regarding the HRQoL of children. Future research may integrate parent-reported and child-reported measures to obtain a more comprehensive measure of children's health and well-being.

In general, the findings indicate that children in the community showed promising health related behaviors, especially eating breakfast and sleeping and exercising. But, psychological issues with academic pressures need to be addressed more strongly. The conclusions are that there is a need for a balance between physically healthy routines encouraged by parents and schools and an emotionally supportive environment. Minimizing academic pressures, fostering open communication, and allowing for rest and exercise can contribute to children's HRQoL. Therefore, a better quality of life for children should be accompanied by the promotion of healthy lifestyles and the protection of their psychological health.

Limitations

The study was conducted in just one residential community of Tehsil Faisalabad; hence the findings may not be representative of all school-going children of Faisalabad and Pakistan. The sample included only 120 mothers who were selected by purposive sampling and this does not allow for generalizability. Data were derived from mothers' perceptions not from children's or health assessments. The cross sectional design gives information about the situation at one particular time and cannot infer causal relationships.

Conclusion

The study revealed that the overall food intake, sleep and physical activity behaviors of school-going children in the selected community were generally good. Academic worry, stressful situations, and examination nervousness were, however, identified as significant concerns related to psychological well-being. The findings indicate the need to take a holistic approach to HRQoL of children, incorporating physical and psychological aspects of HRQoL. Therefore, it is important that parents, schools and relevant educational and health professionals collaborate to encourage good daily habits, and at the same time, provide a positive environment that will minimize unneeded academic stressors.

Recommendations and Suggestions for Future Research

Parents and schools should keep targeting children, and parents, eating well and getting adequate sleep, regular physical activity and emotional support for those children who have academic worries, stress or nervousness about examinations. Larger and more diverse samples from other regions of Faisalabad and Pakistan, as well as children's and parents' perspectives should be collected to provide a more comprehensive picture of HRQoL and its link to educational outcomes in the future.

References

1. Afridi, A. A. K., Motwani, K., Khawaja, S., Khoja, A. A., Fatmi, Z., Azam, I., & Kadir, M. M. (2013). Self-perceived health among school going adolescents in Pakistan: Influence of individual, parental and lifestyle factors? *Global Journal of Health Science*, 5(4), 71–78. <https://doi.org/10.5539/gjhs.v5n4p71>
2. Bacaro, V., Carpentier, L., & Crocetti, E. (2023). Sleep well, study well: A systematic review of longitudinal studies on the interplay between sleep and school experience in adolescence. *International Journal of Environmental Research and Public Health*, 20(6), 4829. <https://doi.org/10.3390/ijerph20064829>
3. Cassidy, T., & Boulos, A. (2023). Academic expectation stress, wellbeing and quality of life among school children. *International Journal of Educational Research Open*, 4, 100249. <https://doi.org/10.1016/j.ijedro.2023.100249>
4. Choi, J., Jeong, S., & Kim, J. (2019). The relationship between academic stress and subjective well-being among children: The role of parental and teacher support. *Children and Youth Services Review*, 99, 1–8.
5. Ferreira, G., Redondo-Tébar, A., et al. (2025). Sleep, sedentary behaviour, physical activity and health-related quality of life in children and adolescents: A systematic review. *British Journal of Health Psychology*, 30(3), e70004. <https://doi.org/10.1111/bjhp.70004>
6. García-Hermoso, A., Hormazábal-Aguayo, I., Fernández-Vergara, O., González-Valenzuela, M. J., Sadarangani, K. P., & Ramírez-Vélez, R. (2021). Relationship between both cardiorespiratory and muscular fitness and health-related quality of life in children and adolescents: A systematic review and meta-analysis of observational studies. *Quality of Life Research*, 30, 1865–1877. <https://doi.org/10.1007/s11136-021-02854-3>
7. Ha, A. S., Zeng, T., Wang, L., & Ng, J. Y. Y. (2022). Parental support, children's physical activity, dietary behaviors and health-related quality of life: Evidence from three Asian cities. *Applied Research in Quality of Life*, 17(6), 752–761. <https://doi.org/10.1007/s11482-022-10056-y>
8. Hashmi, M. M., Akram, M. R., Naumeri, F., & Akram, M. F. (2023). Health related quality of life (HRQOL) in pediatric population after surgical intervention in traumatic lower limb injuries: A prospective cohort. *Pakistan Journal of Medical Sciences*, 39(4), 1134–1139. <https://doi.org/10.12669/pjms.39.4.7128>
9. Janssen, I., & LeBlanc, A. G. (2010). Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity*, 7, 40. <https://doi.org/10.1186/1479-5868-7-40>
10. Jeong, J. Y. (2019). Breakfast consumption and academic performance among children and adolescents: A systematic review. *Nutrients*, 11(12), 2915.
11. Ladak, L. A., Gallagher, R., Hasan, B. S., Awais, K., Abdullah, A., & Gullick, J. (2020). Exploring the influence of socio-cultural factors and environmental resources on the health-related quality of life of children and adolescents after

congenital heart disease surgery: Parental perspectives from a low-middle-income country. *Journal of Patient-Reported Outcomes*, 4, 72. <https://doi.org/10.1186/s41687-020-00239-0>

12. Malik, M., Hussain, A., Purba, F. D., & Gu, N. Y. (2025). Findings from a roundtable discussion with Pakistani stakeholders on measuring and valuing health and health-related quality of life for children and adolescents. *Health and Quality of Life Outcomes*, 23, 65. <https://doi.org/10.1186/s12955-025-02397-5>
13. Marker, A. M., Steele, R. G., & Noser, A. E. (2018). Physical activity and health-related quality of life in children and adolescents: A systematic review and meta-analysis. *Health Psychology Review*, 12(4), 389–409.
14. Ravens-Sieberer, U., Devine, J., Napp, A.-K., Kaman, A., Saftig, L., Gilbert, M., Reiß, F., Löffler, C., Simon, A. M., Hurrelmann, K., Walper, S., Schlack, R., Hölling, H., Wieler, L. H., Erhart, M., et al. (2023). Three years into the pandemic: Results of the longitudinal German COPSy study on youth mental health and health-related quality of life. *Frontiers in Public Health*, 11, 1129073. <https://doi.org/10.3389/fpubh.2023.1129073>
15. Taylor, R. W., Haszard, J. J., Jackson, R., Morrison, S., Beebe, D. W., Meredith-Jones, K. A., Elder, D. E., & Galland, B. C. (2023). Effect of sleep changes on health-related quality of life in healthy children: A secondary analysis of the DREAM crossover trial. *JAMA Network Open*, 6(3), e233005. <https://doi.org/10.1001/jamanetworkopen.2023.3005>
16. Wallander, J. L., & Koot, H. M. (2016). Quality of life in children: A critical examination of concepts, approaches, issues, and future directions. *Clinical Psychology Review*, 45, 131–143. <https://doi.org/10.1016/j.cpr.2015.11.007>
17. Walsh, J. J., Barnes, J. D., Cameron, J. D., Goldfield, G. S., Chaput, J.-P., & Tremblay, M. S. (2022). Associations between 24-hour movement behaviors and health-related quality of life in children and adolescents. *BMC Public Health*, 22, 1968.
18. World Health Organization. (2021). WHO guideline on school health services. Geneva: World Health Organization.
19. Wu, X. Y., Ohinmaa, A., Maximova, K., Veugelers, P. J., et al. (2022). The importance of eating patterns for health-related quality of life among children aged 10–11 years in Alberta of Canada. *Scientific Reports*, 12, 20885. <https://doi.org/10.1038/s41598-022-23707-7>



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